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A Comment from H. C. WHITAKER, B. S. M. E., Professor of Mathematics, Manual Training School, Philadelphia, Pennsylvania.

In the query of L. B., page 27, of No. 1, L. B. asks why the value 5 which he obtains by "solving" does not prove. The reason is not, as stated by the editor, that the radical must be taken with the double sign because then the question would at once come,—what is the value of x when $+\sqrt{x+4}=+\sqrt{x-4}+4$, the plus sign in front of the radicals indicating without any ambiguity that the positive value of the radical is taken. Should the editor say that it is impossible to so indicate the positive root of a quadratic surd as his remarks on page 28 would imply, the reply would be that $3+\sqrt{2}$ is always considered totally distinct from $3-\sqrt{2}$ and if true of 2 most certainly is true of $x-4$.

The answer to L. B.'s query is that he did not get the value 5 or any other value by "solving"; he simply made a mistake in his work, introducing a root.

To illustrate, take $x=-3$.

Square, $x^2=9$

Extract Square Root, $x=3$

which will not prove. The error in the above is obvious. The equation is squared when neither side was zero.

By making every possible change of sign in the radicals

$$+\sqrt{x+a}+\sqrt{x-a}-a=0 \text{ or } k \text{ or } l \text{ or } m$$

$$+\sqrt{x+a}-\sqrt{x-a}-a=n \text{ or } 0 \text{ or } p \text{ or } q$$

$$-\sqrt{x+a}+\sqrt{x-a}-a=r \text{ or } s \text{ or } 0 \text{ or } t$$

$$-\sqrt{x+a}-\sqrt{x-a}-a=u \text{ or } v \text{ or } w \text{ or } 0$$

$$\text{Multiplying all four, } 4a^2+a^4-4a^2x=0 \text{ or } x=\frac{a^2+4}{4}.$$

It will be seen that the resulting equation being of the first degree, there is only one root for all four equations; as the editor says,—when a is between $+\infty$ and $+2$, the first form reduces to zero; between $+2$ and 0 , the second form; if a is between 0 and -2 the third form will reduce to zero and between -2 and $-\infty$ the fourth form.

The editor's explanation is also unsatisfactory from the fact that it will not explain the same conditions existing in equations containing surds of third degree and higher orders.

The subject has been quite well discussed by Mr. W. G. Horner, (of Horner's Method fame) in *Philosophical Magazine*, January—June, 1836-8, page 43, etc.

NOTES.

Rev. Joseph Bayma, S. J., late Professor of Mathematics in Santa Clara College, Santa Clara, California, and author of a series of text-books, including *Elements of Infinitesimal Calculus* (1889), died nearly two years ago. This late notice may be of interest to some of our subscribers who are using his text-books. J. M. C.

Professor B. F. Burleson, of Onelda Castle, New York, so well known to many of our subscribers on account of his numerous contributions to the *Mathematical Journals* of this country, has been at the Hospital at Utica, since August last, taking a course of treatment for paralysis. He has been compelled to give up all Mathematics and correspondence. J. M. C.

Dr. J. E. Hendricks, the well known Editor of the *Analyst*, died at his home in Des Moines, Iowa, June 9, 1893. His biography with portrait will appear in our next number. J. M. C.

Miss Helen Almira Shaffer, A. M., LL. D., President of Wellesley College, died of pneumonia at the college, on January 29, aged 54 years. She was chief teacher of Mathematics for ten years in the St. Louis High School. In 1877, she accepted the professorship of Mathematics in Wellesley, which she filled until 1888, when she became president of that institution. J. M. C.

Professor Landreth, of Vanderbilt University, an alumnus of Union College, has been permanently engaged to fill the chair of Civil Engineering in Union College, Schenectady, in place of Professor C. C. Brown, resigned. J. M. C.

Our subscribers will be interested to know that the volume "The Evanston Colloquium, Lectures on Mathematics," delivered from August 28 to September 9, 1893, before members of the Congress of Mathematics held in connection with the World's Fair in Chicago, at Northwestern University, Evanston, Illinois, by Felix Klein; reported by Professor Alexander Ziwet and published by Macmillan & Co.; New York, 1894, 8vo, 119 pages, cloth binding, can now be had, either from the publishers, or from Professor Ziwet, 14 S. State St., Ann Arbor, Michigan. J. M. C.

EDITORIALS.

We are obliged to apologize again to our subscribers for the delay of this issue of the MONTHLY. We were delayed a week in getting the cuts from the engraver and several weeks in securing the necessary sorts.

Professor Zerr's excellent article on Centroid of Plane Areas was cut out of this number of the MONTHLY as we could not get the necessary sorts. We want the article to appear in good form and, hence, defer its publication till the March Number.

Dr. Halsted says, "I think THE AMERICAN MATHEMATICAL MONTHLY answers to a real need, and I wish you all success." Prof. De Volson Wood says, "Your JOURNAL gives more than you receive." These statements, in substance, *are sanctioned by all of our subscribers.*

We can not tell how pleased we are at the many tributes of praise that come to us from those who received the MONTHLY. Nearly every letter begins by saying- "First number of AMERICAN MATHEMATICAL MONTHLY at hand. I am highly pleased with it. Please find enclosed \$2.00 for my subscription for one year. Success to you, &c."

In answer to what kind of problems to propose for the MONTHLY, we would say that we want you to send us original problems, or problems selected from any text on Mathematics, in which different methods of solution are desired, or problems presenting any thing of interest to the proposer.

We want to make the MONTHLY eminently practical, and if there is nothing in it suitable to the class room in our High Schools and Academies, it is because the laborers in that field of work do not make their wants known. Send us problems in Arithmetic or elementary Geometry and we will publish them, to be solved and discussed.